

What is Claimed is:

1. A mushroom compost compacting assembly comprising a feed hopper unit, a mixer unit, a conveyor unit, a compactor unit, said units being separate and distinct from each other, said feed hopper unit being detachably connected to and communicating with said mixer unit to feed compost from said feed hopper unit to said mixer unit, said mixer unit being detachably connected to and communicating with said conveyor unit and said compactor unit to feed compost from said mixer unit to said conveyor unit and to said compactor unit, said mixer unit including at least one rotatable shaft extending across said mixer unit, a plurality of spaced tines on said shaft for spreading the compost received from said feed hopper unit, said feed hopper unit having a bottom, said mixer unit having a top, at least a portion of said feed hopper bottom being open, at least a portion of said mixer unit top being open and being in flow communication with said open portion of said mixer unit, said mixer unit having a bottom, said conveyor unit having a top, a conveyor in said conveyor unit located below said mixer unit and below said compactor unit, said conveyor having a receiving end below said mixer unit and a discharge end below said compactor unit, said top of said conveyor unit being open above said receiving end of said conveyor, said bottom of said mixer unit being open and in flow

communication with said open top of said conveyor unit above said receiving end of said conveyor unit, a side wall at said discharge end of said conveyor for discharging compost from said conveyor unit, said mixer unit having an outlet side located at said compactor unit, said compactor unit having an inlet side located at said mixer unit, said mixer unit outlet side and said compactor unit inlet side being open and in flow communication, a plurality of parallel compactor drums in said compactor unit, each of said compactor drums having a plurality of spaced parallel longitudinal ribs on its outer surface for compacting compost received from said mixer unit, said compactor unit having a discharge side remote from said inlet side, and a discharge opening in said discharge side for discharging compacted compost from compactor unit on top of the compost discharged from said conveyor unit.

2. The assembly of claim 1 wherein said conveyor unit is detachably connected to said compactor unit.
3. The assembly of claim 1 including a lifting assembly for selectively raising and lowering said connected units.
4. The assembly of claim 1 wherein a pair of said shafts are in said mixer unit, said shafts being parallel with each other, said shafts being an upper shaft and a lower shaft, and a common drive rotating said shafts.

5. The assembly of claim 4 wherein said tines on said upper shaft rotatably extend into said feed hopper unit through said mixer unit open top portion and said feed hopper unit open bottom portion, and said tines on said lower shaft rotatably extending into said conveyor unit through said mixer unit open bottom and said conveyor unit open top.
6. The assembly of claim 5 wherein each of said shafts has a longitudinal center, and said tines on each of said shafts including a set of tines on each side of said longitudinal center angled toward said longitudinal center.
7. The assembly of claim 6 wherein a shoe is transversely secured across the free end of each of said tines in said sets of tines.
8. The assembly of claim 7 wherein each of said shafts includes end tines at its ends angled away from said longitudinal center.
9. The assembly of claim 8 wherein each of said tines in said sets of tines is mounted to its shaft at a slight twist.
10. The assembly of claim 6 wherein said tines on said shafts are spaced apart and staggered with respect to each other whereby said tines on each of said shafts may rotate into the spacing between said tines on the other of said shafts.

11. The assembly of claim 1 wherein said conveyor is inclined upwardly from said receiving end to said discharge end.
12. The assembly of claim 11 including a bridge plate mounted to and outwardly of said conveyor unit.
13. The assembly of claim 1 wherein said ribs on said drums intermesh.
14. The assembly of claim 13 wherein said drums include a drum adjacent to said discharge side of said compactor unit which is the lowest of said drums.
15. The assembly of claim 14 wherein said drums include at least three parallel drums, and the axis of rotation of said drums being aligned along line extending downwardly toward said discharge side of said compactor unit.
16. The assembly of claim 15 wherein each of said drums is vertically adjustable.
17. The assembly of claim 15 wherein said drums are parallel to said mixer unit shaft.
18. The assembly of claim 14 wherein said drums have a common drive.
19. The assembly of claim 1 including a doctor blade at said inlet side of said compactor unit.
20. The assembly of claim 1 wherein said tines extend into said feed hopper unit.
21. The assembly of claim 1, in combination with a mushroom house, said mushroom house having a roof, a plurality of vertically disposed mushroom beds in said house, a feed

opening in said roof, a feed conveyor externally of said house leading to said roof feed opening, a chute in said house, said chute being adjustable in length, said compost compacting assembly being in said house disposed adjacent to one of said beds, a lifting assembly connected to said compost compacting assembly for raising and lowering said compost compacting assembly to be selectively disposed adjacent to different of said beds, and said chute being in flow communication with said feed hopper unit.

22. The assembly of claim 21 wherein a chimney extends through said feed opening in said roof, said chimney containing said roof feed opening, a delivery conveyor in flow communication with said feed conveyor and said delivery conveyor being mounted for delivering the compost into said feed opening.
23. The assembly of claim 22 wherein said house contains a plurality of chimneys extending through said roof, said delivery conveyor being of a length to be located for selectively feeding compost to adjacent chimneys, and said delivery conveyor being movable in reverse directions for the selective feeding of compost into said adjacent chimneys.
24. The assembly of claim 23 wherein said feed conveyor is movable to be selectively positioned between different adjacent sets of said chimneys.

25. In a mushroom house having a roof and a plurality of sets of vertically disposed mushroom beds, the improvement being in a compost compacting assembly in said house, said assembly including a hopper in flow communication with a mixer unit and including a conveyor unit and a compactor unit in flow communication with said mixer unit, said assembly being disposed adjacent to one of said beds, said mixer unit having at least one rotatable shaft with compost spreading tines, said conveyor unit being under said mixer unit, a conveyor in said conveyor unit for discharging compost on to said one bed, a plurality of rotatable compacting drums in said compactor unit, said compacting drums discharging compacted compost on said one bed on top of the compost from the conveyor, a lifting mechanism connected to said assembly for selectively disposing said assembly adjacent to different beds, a feed conveyor disposed externally of said house, said roof having an inlet opening, said feed conveyor communicating with said inlet opening, and a supply chute communicating with said inlet opening and with said hopper.

26. The house of claim 25 wherein a chimney extends through said inlet opening in said roof, said chimney containing said roof inlet opening, a delivery conveyor in flow communication with said feed conveyor and said delivery

conveyor being mounted for delivering the compost into said inlet opening.

27. The house of claim 26 wherein said house contains a plurality of chimneys extending through said roof, said delivery conveyor being of a length to be located for selectively feeding compost to adjacent chimneys, and said delivery conveyor being movable in reverse directions for the selective feeding of compost into said adjacent chimneys.
28. The house of claim 27 wherein said feed conveyor is movable to be selectively positioned between different adjacent sets of said chimneys.
29. The house of claim 25 wherein said hopper includes a plurality of laterally spaced breakers, each of said breakers comprising a rotatable shaft and a plurality of tines mounted longitudinally across said shaft.
30. The house of claim 29 wherein said breakers are laterally aligned with each other, each of said tines being mounted at an angle inclined away from the center of its respective shaft, and said tines being equally spaced from each other and of varying length with the outer ends of said tines forming a sinusoidal curve having the smallest length tines located at the ends and at the center of said shaft.
31. The house of claim 25 wherein said feed conveyor is mounted in a horizontal orientation.

32. The house of claim 25 wherein said hopper and said mixer unit and said conveyor unit and said compactor unit are mounted in a single housing, a shield being disposed in said housing between said compactor unit and said hopper to prevent compost from flowing directly from said hopper to said compactor unit, and said hopper and said compactor unit and said mixer unit and said conveyor unit being otherwise in free communication with each other.
33. A mushroom compacting assembly comprising a housing having an upper end and a lower end with an intermediate section between said upper end and said lower end, a hopper unit in said upper end of said housing, said hopper unit including a plurality of laterally aligned breakers, each of said breakers including a shaft having a plurality of tines extending longitudinally from and around said shaft, said tines being mounted at a non-perpendicular angle extending away from the center of its respective shaft, said tines being of differing length with the free ends of said tines forming a soniciodal pattern wherein the lowest length tines are located at the ends and at the center of each shaft, a mixer unit in said intermediate portion of said housing below said hopper unit, said mixer unit including at least one rotatable shaft extending across said mixer unit, a plurality of spaced tines on said mixer unit shaft for spreading the compost received from said hopper unit, a



compactor unit in said intermediate section laterally spaced from and adjacent to said mixer unit for receiving the compost from said mixer unit, a shield in said housing disposed between and separating said hopper unit from said compactor unit, said compactor unit having a plurality of spaced compactor drums longitudinally and laterally spaced from each other, a conveyor unit in said lower end of said housing below said mixer unit and said compactor unit for receiving compost, said conveyor unit including a rotatable conveyor belt, an opening in said lower end of said housing for permitting compost to be discharged from said conveyor belt and out of said housing through said opening, and each of said hopper unit and said mixer unit and said compactor unit and said conveyor unit being in free communication with each other except for said shield which separates said hopper unit from said compactor unit.

34. The assembly of claim 33 wherein said hopper unit includes three of said breakers, and said shield being S-shaped and extending laterally into said housing to a position where said compactor unit and said mixer unit meet.
35. The assembly of claim 34 wherein said tines on said breaker shafts are equally spaced from each other, and said tines on said mixer unit shaft being angled toward the center of said mixer unit shaft.

36. The assembly of claim 35 wherein said plurality of compactor drums in said compactor unit consists of two drums.

37. The assembly of claim 33 wherein said conveyor belt is disposed in a horizontal orientation.

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